

[54] VISION SYSTEM AND METHOD FOR
AUTOMATED PAINTING EQUIPMENT[75] Inventor: Parashar Patel, Mount Clemens,
Mich.[73] Assignee: Phoenix Software Development Co.,
Sterling Heights, Mich.

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Primary Examiner—Leo H. Boudreau

Assistant Examiner—Jose L. Couso

Attorney, Agent, or Firm—Harness, Dickey & Pierce

[57] ABSTRACT

A machine vision system used with automated painting equipment for object identification, intrusion-sensing and clearance monitoring. The vision system includes one or more cameras mounted at convenient clean locations where unique or distinctive visual attributes or features of the objects to be painted (such as automotive vehicle bodies or parts thereof) and the automated painting equipment may be seen. The camera acquires successive images of a first scene which includes at least a first movable object to be identified. Image processing steps performed on each image from the camera include recognizing selected pictorial attributes or features of the object and comparing the recognized attributes of the first object with corresponding reference data from a set of reference information about the object previously stored in the system. When a match between the reference data and the recognized attributes occurs, the vision system provides signals to programmable controllers which operate the automated painting equipment. Portions of the visual information acquired and/or generated by the vision system are selectively displayed upon one or more CRT monitors so that an operator/observer can verify correct operation of the vision system.

47 Claims, 7 Drawing Sheets

